

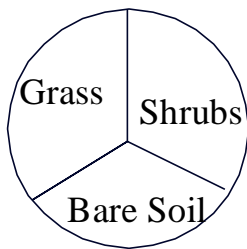


your key to  
**QUAIL**

# THE COVEY HEADQUARTERS

Volume 10    Issue 3    Fall 2011

This newsletter is aimed at cooperators and sports-people in Missouri to provide information on restoring quail. This is a joint effort of the Missouri Department of Conservation, USDA-Natural Resources Conservation Service, and University of Missouri Extension. If you would like to be removed from this mailing list or have suggestions for future articles please contact [jeff.powelson@mdc.mo.gov](mailto:jeff.powelson@mdc.mo.gov) or 816-232-6555 x122 or write to the address shown.



The name of this newsletter is taken from an old concept.....that a quail covey operates from a headquarters (shrubby cover). If the rest of the covey's habitat needs are nearby, a covey should be present. We are encouraging landowners to manage their quail habitat according to this concept. Use **shrubs** as the cornerstone for your quail management efforts. Manage for a **diverse grass, broadleaf weed and legume mixture and provide bare ground** with row crops, food plots or light disking **right next to** the shrubby area.

## Why Don't We Stock Quail?

Beth Emmerich, Resource Scientist, Kirksville, MO

At first glance, stocking seems to be an easy way to restore quail populations. Like many quick fixes, releasing pen-raised quail to restore a population does not bring lasting results, is expensive, may negatively affect wild populations, and may reduce the focus on habitat restoration efforts. Not to mention it is a violation of the Wildlife Code of Missouri to liberate any wildlife to the wild (see 3 CSR 10-4.110).

Actually, the Department of Conservation experimented with stocking pen-raised quail in the 1940s and again in the late 1950s. The conclusion was stocking quail was ineffective at increasing populations. Biologists determined time and money would have been better spent on habitat management.

By the early 1990s, every state wildlife agency had stopped the practice of stocking quail because the practice was ineffective in restoring quail populations and did not address the real problem, which is a lack of suitable habitat. New systems for releasing captive-reared quail have been promoted and the results are the same – quail stocking is expensive and ineffective. The use of call back boxes, or even live call back birds can be used to lure the released birds back to the relative safety of the brooding systems that are usually set up to provide food and shelter. I have not heard of any scientific research that has shown any successes in using these methods to restore quail populations. Following is a few summaries from recent research on various release methods to increase quail populations.

### Georgia Study

During May 2005 – January 2006, a study was conducted on an approximate 1,000-acre portion of a private shooting preserve in Monroe County Georgia, Piedmont Physiographic Province, to assess the return to hunter bag and flight behavior of pen-reared bobwhites that were liberated prior to the hunting season using two release techniques. A total of 1,641 five-week-old wing tagged pen-reared bobwhites were released using the Surrogate Propagation® system during June, August and September; and 1,000 12-16 week old leg-banded bobwhites were “dump released” during November. Birds were liberated into intensively managed pine savanna

habitat that included supplemental feeding and predator control. Fifteen horseback or wagon quail hunts totaling 70 hours were conducted during November – January with 21 different coveys located and 99 covey flushes. Ninety-three birds were harvested of which 81% were leg banded, 14% wing banded, 5% unmarked and presumed to be wild reared. Relative to the total number of birds released, hunter bag returns were 0.80% for the wing-tagged chicks and 7.5% for the leg banded adults. Based on subjective ratings, the summer released wing-tagged chicks exhibited flight behavior exceeding that of fall released leg-banded adults and similar to that of wild reared birds. Hunter bag return rates were low for both systems. The cost per released bird returned to hunter bag was \$74.53 and \$42.00 for the Surrogate Propagation® system and dump-release, respectively.

### **Texas Study**

In 2009, Rolling Plains Quail Research Ranch began a study to determine post-release survival of Surrogated bobwhites at two sites in Texas (Palo Pinto County and Clay County). We radio-tagged and leg banded approximately 80 5-week old chicks at the Palo Pinto site and approximately 40 chicks at the Clay County site. Most of the tagged birds were dead or lost by the second week post release. In 2010, we tagged 27 birds at a third site in Palo Pinto County, and found similar results, that being extremely high mortality of tagged birds within 2 weeks post-release. Visual observations of bobwhites without transmitters suggest that similar mortality was occurring. Based on our results to date, landowners utilizing Surrogators® to enhance the existing bobwhite population or re-establishing populations in unoccupied ranges should expect poor survival and low success in achieving their goals.

### **Nebraska Pheasant Study**

Nebraska (2008). The Surrogator® captive propagation system is purported to increase populations of northern bobwhite and ring-necked pheasants. The units provide food, water, heat, and shelter for chicks until they are released. Releasing pheasant chicks at 4-5 weeks and limiting contact with humans while they are in the Surrogator® unit is purported to allow the chicks to retain the survival instincts of wild birds. We evaluated the efficacy of the Surrogator® system by evaluating the survival and return-to-bag of pheasant chicks raised in the units placed on 2 shooting preserves and 2 public wildlife areas. Survival from release until the start of the pheasant hunting season was low (12%) and annual survival was less than 1%. Of the 170 pheasant chicks placed in the unit at the beginning of the study, 6 (3.5%) were returned to bag. Cost/pheasant\$36.21 (\$3.50 w/o Surrogator® Cost/pheasant returned to bag=\$331.98 (\$32.14 w/o Surrogator®). (NE Game & Parks Special Report).

### **Kentucky Study**

Kentucky (2007-2009). Study conducted by the Kentucky Department of Wildlife. In 2007, 294 birds were released using the Surrogate Propagation® system at a research farm. The farm was hunted hard during the 2008-09 season, with no birds flushed or harvested. In 2009, KDW released 277 birds at the same site. Covey call counts were conducted on the property during October; with one covey detected. In mid-November, 5 hunters using 5 dogs hunted 2 hours with no birds flushed or harvested. At a second release site where no hunting was allowed, no birds were detected during October covey call counts, flush counts, or in call back pens.

These studies are just a few of the examples of trying to use released birds to increase the bobwhite populations on an area. Reintroduction of wild turkeys is often heralded as a modern wildlife success story. Adult turkeys have a much higher survival rate than quail, and turkeys were released into suitable, but unoccupied habitat. Unfortunately for quail, most suitable habitat in Missouri is occupied. If the habitat is incapable of supporting wild bobwhite, the chance of released birds surviving is minimal.

Releasing birds onto a private property, for the purposes of dog training, or operating a hunting preserve is allowed through special permits. Information about the requirements for these permits can be found following this link: [http://mdc.mo.gov/sites/default/files/resources/2010/09/9862\\_6862.pdf](http://mdc.mo.gov/sites/default/files/resources/2010/09/9862_6862.pdf).

# Prescribed Burning Will Improve the Wildlife Habitat on Your Farm

Chris McLeland, Private Land Conservationist, Linn, MO

Fire was very common across Missouri's landscape prior to European settlement. These naturally occurring fires helped shape Missouri's ecosystem by naturally distributing many plant and animal species. As more settlers moved into the state and as towns and cities grew, naturally occurring fires were quickly suppressed. Many of our native plant species require the stimulation of fire to stratify and germinate; as a result of reduced fire we can see a reduction in our native plant communities across the landscape. This reduction in our native plant communities can provide the opportunity for other, non-native plants to become established, as well as encroachment by woody vegetation such as eastern red cedar, which provides very little wildlife benefit.

A prescribed or controlled burn is a process in which a landowner can apply fire to a certain area, under controlled conditions to achieve certain results. Conducting a prescribed burn can greatly enhance these areas by controlling woody vegetation encroachment, stimulating the growth of plants that are highly desired by wildlife species such as Bobwhite quail and Eastern Wild Turkeys for both nesting and forage. Prescribed burns can also improve poor grazing distribution, reduce wildfire risk, and enhance the seed production of target plant species. Prescribed burning is also one of the best site preparation tools when preparing a field for an initial seeding of warm season grasses, alfalfa or clover to name a few.

There are many factors to consider when planning and conducting a prescribed burn. The easiest and most effective way to learn is to attend a prescribed burn workshop. The Missouri Department of Conservation (MDC) offers several of these workshops every spring and fall. These are very informative sessions that discuss in detail the correct processes and procedures to follow when planning and conducting a prescribed burn, as well as having a prescribed burn plan constructed for your property. Contact your local MDC office to find out when the next prescribed burn workshop will occur – [www.mdc.mo.gov](http://www.mdc.mo.gov)

I would also recommend that you contact your local Missouri Department of Conservation Private Land Conservationist (PLC) before you begin to plan your Prescribed Burn. A PLC can give technical advice specific to your property and based on your goals, may be able to provide financial assistance to aid you in improving Fish, Forest and Wildlife resources.

## Important Quail Plants You Should Know

**Common Ragweed** – Bane for allergy sufferers but # 1 wild quail food in Missouri.

There are numerous definitions of a weed, including:

- A plant out of place and not intentionally sown
- A plant growing where it is not wanted
- A plant whose virtues have not yet been discovered (R.W. Emerson)

Whatever **your** definition, ragweed is a weed to most people, but to quail and quail managers it is free food and cover.

Common ragweed seedlings emerge from May through July. Flowering parts are formed from July to September and seeds mature from August until first frost. The pollen that is produced and distributed in abundant quantities from August until frost is the cause of most hay fever in late summer.

Seeds have several longitudinal ridges ending in short spires (similar to a crown). You can buy expensive ragweed seed to



plant for quail, believe it or not, OR you can almost bet that nature has already planted it for you. All you have to do is manage for it. Best management practices for encouraging ragweed are fall disking or summer, fall and winter burning. Eradicating fescue and other sod-forming grasses in the fall will also produce abundant ragweed populations. Ragweed relishes disturbance, just like quail; they were meant for each other.

In most areas of the state, ragweed has proliferated in not only areas managed for quail but also in overgrazed pastures. Many landowners are now mowing their pastures, but it is only a cosmetic solution. The ragweed has produced seed and the mowing is doing little good. We get many reports from farmers who do leave the ragweed in their pastures that they see lots of quail in their pasture in the fall.

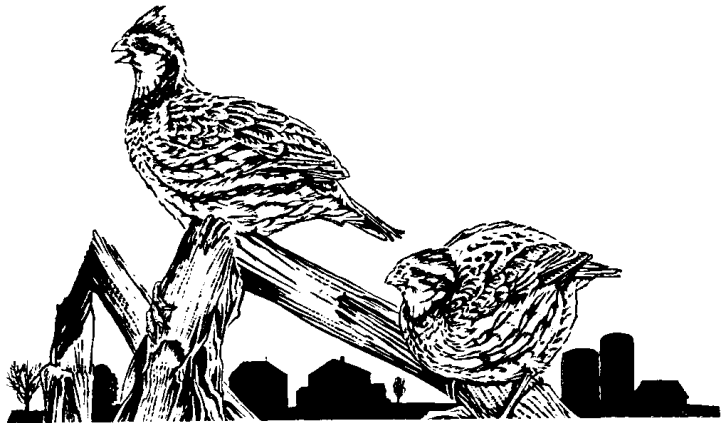
Studies have shown that it is the #1 natural quail food in Missouri. Not only does it produce food, but during the growing season it attracts food for quail chicks, in the form of insects. It has the proper growth and structure that makes it attractive cover for quail; no self-respecting Cooper's hawk is going to dive into a healthy stand of ragweed for a quail meal. Before the weather gets cold, quail will roost in ragweed at night.

Even if you consider ragweed a weed, even if you suffer from ragweed allergies, just remember that some four-letter words like 'WEED' are good for quail! And numerous songbirds will vote it #1, too!

Be sure to get a copy of MP 903, "Quail Friendly Plants of the Midwest" <http://extension.missouri.edu/p/MP903> and learn to identify additional plants that are beneficial for bobwhites.

## Census the Quail Population on your Property This Fall

Fall quail whistling counts should be conducted in October. The maximum distance a quail whistle can be heard is 800 yards, but on average, 547 yards is the limit, so space listening points 1,000 yards apart. With a 547-yard listening radius, you are theoretically hearing quail in a 194-acre circle around you. If trees or topography limit your ability to hear quail whistling 547 yards away, listening stations can be closer together. Put listening stations on ridgetops to maximize the area you survey each morning. Permanently mark each listening station so they can be used every year. Listen only on calm and clear



mornings starting 45 minutes before sunrise during the last 3 weeks of October. Listen until about 10 minutes before sunrise. Generally you will not hear the familiar "bobwhite" during the fall calling period. The covey call is a clear load whistle vocalized as "koi-lee." Listen carefully because the call typically lasts only 30 seconds. For best results, be consistent in the way you collect the data. Keep track of all data and keep it on file for year-to-year comparison. To learn more about estimating the bobwhite quail population on your property refer to MU Extension Guide G9433, <http://extension.missouri.edu/p/G9433> For additional information on conducting fall whistle counts visit <http://mdc.mo.gov/landown/wild/quail/fallcount.htm> The website includes a survey form and recordings of quail calls.

## Did You Know???

Stay in touch with MDC news and events online. Go to the following website - [http://mdc.mo.gov/user\\_mailman\\_register](http://mdc.mo.gov/user_mailman_register) to subscribe to the Covey Headquarters Newsletter via e-mail. The e-mail version will come to you about 4-5 weeks earlier than the printed version. There are several news releases, newsletters and periodicals listed on this website. Be sure to click "yes" on "Covey Headquarters" to start receiving your issue by e-mail. If you would like to be taken off the print version, please send an e-mail to the address listed at the top of this newsletter.

## CRP Mid-Contract Management

Below is a Conservation Reserve Program (CRP) mid-contract management table. Many of you that re-enrolled your CRP acres this spring will now be required to manage your CRP by using fire, chemical, or a disk. Mid-contract management is necessary because CRP fields begin to lose their wildlife value after year 4. Missouri's climate is perfect for growing grass and any grass stand left unmanaged for several years gets too thick for small game. Even a native warm-season grass stand gets too thick for small game and must be managed. The goal of CRP mid-contract management is to open up the grass stand, encourage wildflowers and legumes, and provide bare ground for wildlife. The management dates are set at a time when the grass will be suppressed, which is your goal. By completing your mid-contract management practices, you are extending the wildlife value of your CRP acres through the life of the contract. Visit your local USDA Service Center if you have questions about CRP mid-contract management. Note the long window for burning warm-season grasses. Burn early during this window as there are more burn-suitable days in late summer early fall than in late winter.

**Conservation Reserve Program Mid-Contract Management Calendar**

	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec	
Burn cool-season grasses													3/15 – 4/30
Burn warm-season grasses													7/16 – 3/15
Disk													7/16 – 12/31
Spray cool-season grasses													3/15 – 4/30 or 10/1 – 12/1
Spray warm-season grasses													7/16 – 9/15
Interseed Legumes and Wildflowers	<p style="text-align: center;">IN CONJUNCTION WITH THE ABOVE MID-CONTRACT MANAGEMENT OPTIONS DO NOT INTERSEED BIRDSFOOT TREFOIL, SERECIA LESPEDEZA, SWEET CLOVER, OR CROWN VETCH</p>												

## Provide these five so quail will thrive!

### 1. Brooding Cover

This cover is made up of annual plants such as ragweed, pigweed, annual lespedeza and foxtail with little litter at ground level. Good brood rearing cover will have plenty of open spaces at ground level with an overhead canopy of grasses and forbs. An abundance of forbs and legumes will also provide a variety of insects, which chicks need for rapid development and hens need for nesting. Recently disturbed areas typically provide good brooding cover for one to three years. At least 40 percent of a covey's home range should be in brooding cover. Many Conservation Reserve Program fields in Missouri lack this type of open cover--and therefore quail populations.

## 2. Nesting Cover

This type of cover is made up of grasses with the previous year's litter at least 8 inches tall for nesting building and concealment. Nesting cover should make up of at least 30 percent of a covey's home range. Clumpy grasses such as little bluestem, broomsedge, orchard grass or timothy are preferred. Quail-nest research in Missouri has shown that quail prefer to nest within 50 feet of an edge. Similar research in Iowa showed a preference for nesting within 80 feet of an edge. Edge is generally considered the boundary between another habitat type, such as a crop field, covey headquarters, firebreak, pasture, woodland, etc. Sometimes patches of weeds, which serve as brood-rearing cover, may occur in an area of nesting cover and the boundaries between these areas can also be considered an edge. The more edge created within nesting cover, the more opportunities there will be for quail nesting and brood rearing. Strip disking, patch burning, food-plot planting or covey headquarters establishment are some ways to create edge within nesting cover.

## 3. Roosting Cover

This cover type includes herbaceous vegetation such as ragweed, food plots and recently disturbed grasses at least 12 to 36 inches tall with at least 25 percent bare ground for easy movement. Research shows that quail use crop fields, grasslands and old field for roosting. Quail usually do not roost in shrubby cover or woody draws except during periods of ice or snowy weather. Fescue and other cool-season grasses do not provide good roosting cover because they collapse under snow and ice. Roosting is probably the only bobwhite activity where dense overhead cover is usually not required. Apparently the birds' camouflage and motionless state while roosting eliminate the need for cover overhead. The open skyward view also allows birds to flush unobstructed during darkness when approached by predators. Quail roost on both bare soil and vegetation litter. Dark colored bare soil that receives sunlight can provide a warmer surface during night and keep quail warmer. On the other hand, vegetation litter insulates quail from frozen soil. Roosts often are located on a south or southwest slope where afternoon sun is direct and has warmed the ground.

## 4. Escape Cover

Used daily throughout the year and after snow or ice flatten the grasses and forbs, this cover type includes brushy fence rows, plum and dogwood thickets, edge feathering, downed tree structures (loose brush piles), forage sorghum and broom-corn food plots. Ideally, 20 percent of the home range should be made up of shrubby cover. Shrub thickets, edge feathering and downed tree structures should be scattered throughout and along the edges of grass fields. Missouri research shows that quail rarely venture further than 70 feet from escape cover. Low-growing woody or shrubby cover is often a limiting factor in and around many CRP fields in Missouri. Fields can be made more suitable for quail if you can stand in a field and be no more than 100-150 feet from shrubby cover.



## 5. Food

Quail prefer such foods as annual seeds, including pigweed, ragweed, foxtail and lamb's-quarters. During the summer, young quail depend on insects for food. In the winter, quail make use of food plots, especially during heavy snow or ice storms. Milo, forage sorghum, soybeans, millet, corn and sunflowers are good sources of winter food. Make sure you establish the four habitat types above before concentrating on food plots.

## These 5 Habitat Types Every 40 Acres = Quail Success

Quail require nesting, brooding, shrubby cover and food to be close to one another. Provide all these habitat components on each habitat parcel of 40 acres or less.

## **Burn Native Warm-Season Grass Now**

If you want to see some phenomenal, quail-friendly changes in your native grass planting, try a late summer or fall burn.

Burning at this time will:

- \*reduce the height of next year's grass growth
- \*encourage other plants, including ragweed and wildflowers
- \*open up the grass stand, making it useful for quail and other wildlife

Get your firebreaks tilled now and be ready to burn anytime after August 15. Postponing until September 15 will avoid destroying late quail re-nesting attempts. You may think that it is too green to burn, but there is enough dead fuel underneath to burn and keep a fire moving as fast as it might during a typical spring burn. Moisture in the live green material is rapidly declining as the plants mature. Pick a day with humidity above 45% and burn only small patches so that you do not destroy all of the winter cover in the field. If you do not have native wildflowers and legumes in your native grass mix already, you can overseed them this winter into the burned area. Most wildflowers need a cold, wet stratification before they germinate.

Before burning CRP acres, please contact your Farm Service Agency to make sure you are following program guidelines.

## **Fall Covey Headquarters Calendar**

### **September**

Broadcast alfalfa, wheat, barley, or rye into tilled firebreaks or food plots this month

Spray serotia lespedeza by Oct. 1

Prepare firebreaks for fall and winter burns

Burn native warm-season grass in fall to increase plant diversity

Light disk your CRP acres now through Mar. 31

### **October**

Use chemicals to set back 1/3 to 1/2 of your CRP cool season grass fields through Dec. 1

Spray native grass plantings for invading brome and fescue after a killing frost

Conduct fall quail covey counts on calm mornings one half hour before sunrise

Prepare for winter edge feathering projects by spraying brome/fescue where trees will drop

Spray fescue and brome in fencelines, woody draws, and under shrubs after leaf drop

### **November**

Quail and pheasant season opens in Missouri

Basal spray undesirable trees according to herbicide label now through March

Order your covey headquarter shrubs from the MDC nursery through May. Blackberry, shrub dogwoods, wild plum, and false indigo bush are best for quail

Conduct edge feathering, woody draw and fence row renovations now through March

## **Did You Know???**

Many folks point to the abundance of raptors as the quail limiting factor. However, the locally most common hawk, the red-tailed hawk, is too slow to catch many bobwhites. Studies of the rarer raptor species that are quick enough to catch quail reveal that quail are minor prey in their diets. The myth that red-tails are responsible for a decrease in quail is a paradox; they kill many predators that eat quail (snakes, skunks, house cats, etc.) and actually benefit bobwhite numbers.

### *Experience a Quality Quail Hunt on Public Land*

#### **Special quail hunts set for Cover Prairie C.A. and Davidson-Paris W. A.**



To improve your chance of finding quail on public land, the Missouri Department of Conservation restricts hunting pressure on select Conservation Areas. On two areas in Howell County, public use is limited to a handful of days, and only one hunting party each of those days. MDC is accepting applications for special quail hunts on the Dan and Maureen Cover Prairie Conservation Area and the Carrick W. Davidson- Robert G. Paris Wildlife Area, both near West Plains. There will be 18 hunts on Cover Prairie C.A. and 8 hunts on Davidson-Paris W.A. Each successful applicant will be allowed to take three other hunters, and they will have the area to themselves. Each party will be allowed to take four quail. To apply for these special hunts, contact: Missouri Department of Conservation, Special Quail Hunts, 551 Joe Jones Blvd., West Plains, MO 65775 or call 417-256-7161. All applicants must include the area on which they wish to hunt, the applicants name, permanent mailing address,

phone number and the names of no more than three additional people who will be in the hunting party. No person's name may be listed on more than two permits. Applications will be accepted Sept. 1 thru Sept. 30. Successful applicants will be notified by Oct. 15.

UNIVERSITY OF MISSOURI

 **Extension**

 **NRCS** Natural Resources  
Conservation Service

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